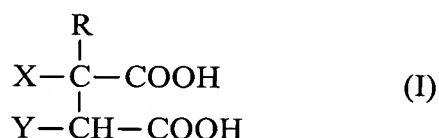


impregnated with a heat-curable composition and the resultant mixture is shaped at temperatures above 120°C or (2) consolidated sheetlike structures of fiber materials, wherein an unconsolidated sheetlike structure of fiber materials is first treated with a heat-curable composition and then heated at temperatures above 120°C, wherein the heat curable composition comprises:

(A) at least one reaction product of

i. at least one polycarboxylic acid of the formula I:



in which

R is a hydrogen or a CH₂COOH group,

X is hydrogen, OH or NH₂, but is OH or NH₂ if Y is hydrogen,

Y is hydrogen, OH or NH₂ but is OH or NH₂ if X is hydrogen, or

X and Y together are a π bond,

and/or an anhydride of the polycarboxylic acid I

ii. with ammonia and, if desired,

iii. with primary amines and/or compounds containing at least two hydroxyl groups;

and/or

(B) a mixture of at least one polycarboxylic acid of the formula I and/or its anhydride and at least one substance which releases ammonia on heating and, if desired, primary amines and/or compounds containing at least two hydroxyl groups.

As described in the specification beginning at page 1, line 9, prior art moldings from finely divided materials have suffered from various deficiencies. Among such prior art is EP-

A445578, which is equivalent to Dotzauer et al and which, as described in the specification at page 1, lines 31-35, discloses boards made from finely divided materials such as glass fibers, whose binder comprises a composition comprising high molecular mass polycarboxylic acids and polyhydric alcohols, alkanolamines and/or polyfunctional amines. The water resistance of the boards obtained is not satisfactory.

As described above, Dotzauer et al employs a binder which comprises high molecular mass polycarboxylic acids. Indeed, Dotzauer et al disclose that their invention includes condensates of high molecular weight polycarboxylic acids (page 1, lines 29-30). Dotzauer et al disclose further that particularly suitable high molecular weight polycarboxylic acids are polymeric polycarboxylic acids that contain, as polymerized units, not less than 50 mol% of monomers which contain a carboxyl group, such as maleic acid and fumaric acid, and 50-95 mol% of one or more monomers such as styrene, ethylene, and acrylates or methacrylates of alkynols of 1 to 6 carbon atoms. (Page 2, lines 1-20).

The present invention differs from, and is not suggested by Dotzauer et al, on at least two levels. The at least one polycarboxylic acid of Formula I herein is different from, and of a substantially lower molecular weight than, the high molecular weight polycarboxylic acids of Dotzauer et al. It is clear that the presently-recited polycarboxylic acid of Formula I is not polymeric. In addition, the present invention requires ammonia or at least one substance which releases ammonia. Dotzauer et al neither disclose nor suggest the presence of such a material.

In the Office Action, the Examiner finds that Applicants' arguments that the boards of Dotzauer et al have unsatisfactory water resistance "is not commensurate in scope of above claims because this limitation is not encompassed by these claims." In reply, the Examiner's point is incongruous. Applicants' argument refers to a defect in the prior art, not a property of

the presently-claimed invention.

Regarding Applicants' argument that Applicants' polycarboxylic acid component is different from, and has a substantially lower molecular weight than, the high molecular weight polycarboxylic acids of Dotzauer et al, the Examiner finds the argument not persuasive because the claims do not recite a specific range of molecular weight, and the Examiner does not understand why the term "polycarboxylic acid" is used when it is not polymeric in structure.

In reply, the molecular weight is governed by the definition of the groups in Formula I for the polycarboxylic acid. Furthermore, the prefix "poly" simply stands for "more than one." Formula I indicates that Applicants' polycarboxylic acid can have two or three carboxylic groups. But the presence of more than one group does not make a compound containing it a polymer!

For all the above reasons, it is respectfully requested that the rejections over Dotzauer et al be withdrawn.

The rejection of Claims 1, 4 and 12 under 35 U.S.C. § 112, second paragraph, is respectfully traversed. Regarding the term "finely divided", it is respectfully submitted that one skilled in this art, which involves producing moldings from finely divided materials, would understand the metes and bounds of the above-quoted term. Guidance is also provided in the specification at page 15, line 19ff and page 20, line 13ff.

In the Office Action, the Examiner finds that the above reference to the specification is of a description of polymeric matrices, and not for particular materials. This is clearly incorrect, as the disclosure at page 20, line 13ff makes clear, since it described fibrous and particulate substrate materials having particular dimensions and exemplifies both natural and synthetic, organic and inorganic materials.

For all the above reasons, it is respectfully requested that this rejection be withdrawn.

The rejection of Claims 1 and 12 under 35 U.S.C. § 112, first paragraph, as failing to satisfy the description requirement thereof, is respectfully traversed. Claims 1 and 12 were amended by the previous amendment, with underling indicating insertions, as follows:

“X is hydrogen, OH or NH₂, but is OH or NH₂ if Y is hydrogen,
Y is hydrogen, OH or NH₂, but is OH or NH₂ is X is hydrogen.”

Thus, Applicants made explicit what was at least implicit, that X and Y can each be hydrogen, but must be OH or NH₂ when the other is hydrogen.

In the Office Action, the Examiner finds that there is no support in the specification for "X is a hydrogen" and "Y is a hydrogen." The Examiner is incorrect. Applicants described what X can be "if Y is hydrogen," and what Y can be "if X is hydrogen." How can that not be a description that X can be hydrogen, and that Y can be hydrogen?

For all the above reasons, it is respectfully requested that this rejection be withdrawn.

All of the presently pending claims in this application are now believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

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